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AZ CORP COMMISSION  
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Dennis E. Doelle, D.D.S  
7223 E. Carefree Drive  
P. O. Box 2506  
Carefree, Arizona 85377

**BEFORE THE ARIZONA CORPORATION COMMISSION**

IN THE MATTER OF THE	)	DOCKET NO: SW-02361A-08-0609
APPLICATION OF BLACK MOUNTAIN	)	
SEWER CORPORATION, FOR A	)	
DETERMINATION OF THE FAIR	)	
VALUE OF ITS UTILITY PLANT AND	)	
PROPERTY AND FOR INCREASES IN	)	
ITS RATES AND CHARGES FOR	)	EXPANDED
UTILITY SERVICE BASED THEREON.	)	INTERVENOR'S TESTIMONY
_____	)	AND EXHIBITS

**DIRECT TESTIMONY OF**

**DENNIS E. DOELLE, D. D. S.**

**SEPTEMBER 18, 2009**

Arizona Corporation Commission  
**DOCKETED**

SEP 18 2009

DOCKETED BY	
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**I. INTRODUCTION AND QUALIFICATIONS**

**Q. PLEASE STATE YOUR NAME AND ADDRESS.**

A. My name is Dennis E. Doelle. My business address is 7223 E. Carefree Drive, Carefree, Arizona 85377.

**Q. WHAT IS YOUR PROFESSIONAL BACKGROUND?**

A. I am a dentist licensed in the State of Arizona. I own the building in which I have had a practice of General Dentistry for the past 30 years.

**Q. WHAT IS YOUR RELATIONSHIP WITH THE BLACK MOUNTAIN SEWER CORPORATION?**

A. I have been a commercial customer of the Black Mountain Sewer Company (BMSC), which was previously named Boulders Carefree Sewer Corporation, since 1979.

**Q. WHY ARE YOU TESTIFYING IN THIS PROCEEDING?**

A. I have concerns regarding the specific methodology proposed to determine rates and classify commercial customers.

**Q. WHAT ARE YOUR PARTICULAR CONCERNS ABOUT THE RATE DETERMINATION METHODOLOGY AND CLASSIFICATION OF CUSTOMERS?**

A. This proposed application for a rate increase lacks a rational basis for the determination of rates. It also fails to accurately classify all commercial customers and provides outdated, innaccurate data for some of those it does classify.

## **II. HISTORICAL BASIS FOR TESTIMONY**

**Q. HAVE YOU PROVIDED PRIOR TESTIMONY RELATED TO THIS OR PREVIOUS RATE INCREASES OF THE BMSC?**

A. Yes, on several occasions.

**Q. WHEN DID YOU FIRST BECOME INVOLVED WITH BMSC RATE INCREASES AND HOW WERE YOU INVOLVED?**

A. In 1996 I filed a formal complaint with the Arizona Corporation Commission (AZCC).

**Q. WHAT WAS THE NATURE OF YOUR FORMAL COMPLAINT?**

A. My complaint addressed the improper classification of my business and inaccuracies in the bulletin used to determine sewer rates.

**Q. WHAT WAS DECIDED AS A RESULT OF YOUR COMPLAINT?**

A. A Hearing was eventually scheduled that resulted in AZCC Decision #60258 (March 1997).

**Q. WHAT DIFFERENCE, IF ANY, IS THERE BETWEEN YOUR FORMAL COMPLAINT AND YOUR CONCERNS WITH THIS APPLICATION FOR A RATE INCREASE?**

A. In 1996 the rate structure and methodology for determining rates had already been approved by the Commission. This application which proposes the same methodology for determining rates, has not been approved by the Commission.

**Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY ON THIS NEW APPLICATION FOR A RATE INCREASE?**

A. Yes. On July 20, 2009 I filed preliminary testimony that addressed problems created by using arbitrary tables and specifically Engineering Bulletin #12 to determine rates and classify commercial customers.

**Q. HAS BULLETIN #12 BEEN QUESTIONED BY THE COMMISSION IN THE PAST?**

A. Yes. As I reviewed in my preliminary testimony, the Commission as a part of the opinion and order of Decision #60258 stated "As a result of this case, it is obvious that Engineering Bulletin #12 may need to be updated."<sup>1</sup>

**III. BULLETIN #12: AN IRRATIONAL BASIS FOR DETERMINING RATES?**

**Q. CAN YOU ELABORATE FURTHER ON SPECIFICALLY HOW ENGINEERING BULLETIN #12 CREATES A PROBLEM WHEN IT IS USED AS A MEANS OF CLASSIFYING YOUR BUSINESS?**

A. Engineering Bulletin #12 provides an estimate of sewage flow for a "dental office" of 500 gallons per each dental chair per day. My dental office has never possessed the characteristics intended by the original drafters of Bulletin #12. If the estimated sewage flow from Bulletin #12 was accurate for my office, the estimated water delivered to my office and potentially released to the sewer system would easily exceed 60,000 gallons every month.

**Q. IS THE WATER DELIVERED TO YOUR OFFICE METERED AND IF SO WHAT AMOUNT OF WATER IS DELIVERED TO YOUR OFFICE ON A MONTHLY BASIS?**

A. It varies depending on primarily landscaping demands. My most recent available water usage figure supplied by the Carefree Water Company for the month of August 2009 was 11,650 gallons.

**Q. HOW DOES THIS WATER USAGE COMPARE TO OTHER MONTHS?**

A. It is somewhat higher because of summer landscaping demands for irrigation.

**Q. WHAT PERCENTAGE OF WATER DELIVERED TO YOUR BUILDING DO YOU ESTIMATE TO BE ALLOCATED TO LANDSCAPE IRRIGATION?**

A. Approximately 40%.

**Q. HOW DO YOU ACCOUNT FOR THE EXTREME DIFFERENCE BETWEEN THE AMOUNT OF NON-LANDSCAPING WATER THAT IS SUPPLIED TO YOUR BUILDING AND THE ESTIMATED WATER USAGE FIGURES IN ENGINEERING BULLETIN #12?**

A. This was the basis of my Formal Complaint to the Commission in 1996 in which I argued my office does not have the characteristics that were intended by the engineers that wrote the Bulletin in the 1970's.

**Q. ARE THERE ANY DENTAL OFFICES TODAY THAT WOULD POSSESS THE CHARACTERISTICS OF THE "DENTAL OFFICE" CATEGORY INTENDED BY BULLETIN #12?**

A. Only if they still had continuously running water cuspidors (sink basins next to dental chairs which were popular prior to 1975.)

**IV. TREND TOWARD MORE RATIONAL DETERMINATION OF RATES**

**Q. WHAT ONGOING RESEARCH HAVE YOU BEEN CONDUCTING SINCE YOU FILED YOUR PRELIMINARY TESTIMONY?**

A. I have been contacting other wastewater companies throughout Arizona to assess rate determination methods and trends.

**Q. HAVE YOU FOUND ANY COMPANIES THAT ARE STILL USING ENGINEERING BULLETIN #12 (1989) TO CLASSIFY CUSTOMERS AND DETERMINE RATES?**

A. No. If there are other companies using the Bulletin #12, I have not found them yet.

**Q. WHAT ARE THE RESULTS OF YOUR SURVEY AS OF THIS TIME?**

A. The majority of utilities are using actual water usage figures for some or all of their rate computation process. At least one company, the City of Casa Grande, is in the process of proposing conversion of all customers from partial water usage computations to only water usage,<sup>2</sup> now that water usage figures are more readily available. In many cases, smaller water companies, such as the Green Valley Water District, supplies water usage figures to the sewer utility, Pima County Wastewater Department, for computation of wastewater rates.

**Q. WHAT IS THE ATTRACTION OF USING ACTUAL WATER USAGE FIGURES?**

A. It is the most rational basis for determining rates since there is a correlation between water usage and wastewater discharge.

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<sup>2</sup>Information from: Diane Archer, finance director, City of Casa Grande Sewer/Trash.

**V. SUMMARY**

**Q. WHAT IS YOUR UNDERSTANDING OF WHY THE BMSC IS PROPOSING THE USE OF ENGINEERING BULLETIN #12 TO CLASSIFY COMMERCIAL CUSTOMERS AND DETERMINE RATE STRUCTURES?**

A. Per the direct testimony of Thomas J. Bourassa (December 19, 2008) "Per prior Commission order, wastewater flows are based on Engineering Bulletin No. 12, Table 1." <sup>3</sup> No reference is provided to cite the Commission order that previously requested the use of that publication.

**Q. WHAT DIRECTION DO YOU CONSIDER THIS APPLICATION FOR A RATE INCREASE SHOULD MOVE?**

A. The same direction that many other utilities are moving, toward a more rational basis for the determination of sewer rates.

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<sup>3</sup>Direct Testimony of Thomas Bourassa page 15, lines 25, 26

CAREFREE WATER COMPANY  
P.O. Box 702  
Carefree, Arizona 85377  
(480) 488-9100

BILLING DATE	ACCOUNT NUMBER
08/31/2009	3495
PAST DUE DATE	AMOUNT DUE
09/23/2009	79.63

AMOUNT PAID \_\_\_\_\_

DENNIS DOELLE  
P.O. BOX 2506  
CAREFREE, AZ 85377-

EMAIL ADDRESS \_\_\_\_\_ and/or  
address/phone update. Thank you.



PLEASE CUT AND INCLUDE THE ABOVE STUB WITH PAYMENT. KEEP THE BOTTOM PORTION FOR YOUR RECORDS.

DESCRIPTION	METER READINGS		GALLONS USED	AMOUNT
	PRESENT	PREVIOUS		
Meter Reading *	1120850	1109200	11650	
Base Charge for WR1				36.05
Tier 1: Usage \$2.83 per 1000 first 8000				22.64
Tier 2: Usage \$3.86 per 1000 from 8001 to 20000				14.09
Tier 3:				
Tier 4:				
Tier 5:				
Late, Set-up and/or Misc. Fees				
Tax 9.3% (State Water Usage Tax .0065/1000 gals. included in total)				6.85
Previous Unpaid Balance				
Due Upon Receipt - Delinquent After	09/23/2009		TOTAL DUE	\$ 79.63

CUSTOMER	BILLING PERIOD	
DOELLE, DENNIS	07/29/09 - 08/26/09	
SERVICE ADDRESS	ACCOUNT NUMBER	BILLING DATE
7223 CAREFREE DR	3495	08/31/2009





## ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Fife Symington, Governor

Russell F. Rhoades, Director

August 30, 1996

DA96:036

Dr. Dennis E. Doelle  
P.O. Box 2506  
Carefree, AZ 85377

**RE: Wastewater Discharge from Dentist's Chairs in Bulletin No. 12.; Estimating Wastewater Discharges from Dentist's Offices**

Dear Dr. Doelle:

This letter is to answer your question regarding the average daily discharge of wastewater from a dentist's office based on the number of dentists chairs installed, and how to estimate the discharge from a dentist's office. I will also attempt to answer your question regarding the application of ADEQ's Bulletin No. 12.

First, the only logically and factually correct way to estimate the wastewater flow discharge rates from your dentist's office would be to total the gallons of water delivered to your business as shown on your water bills for the last 12 months and divide that number by 12. This will give you the total maximum average amount of water used per month and also give you the total *maximum* wastewater your office would discharge per month. The actual monthly average would be less if you are using some of you water for landscape irrigation.

In regards to the 500 gallons per day per dentist chair wastewater discharge you referenced in Engineering Bulletin No. 12, *Minimum Requirements for the Design and Installation of Septic Tanks Systems and Alternative On-Site Disposal Systems*, that figure can not be applied to your office discharge for several reasons. I will try to explain below.

The first and the most obvious reason is that Bulletin No. 12 only applies to those households and small businesses that are connected to an on-site wastewater system. Since you discharge to a sewer, Bulletin No. 12 does not apply to you. Applying Bulletin No. 12 to your situation would be a mis-application of the bulletin.

Secondly, some of the discharges and sizing calculations in Bulletin No. 12 have been based on artificially inflated figures and built in safety factors for wastewater discharge amounts in an effort to prevent the failure of on-site systems. When the on-site systems are over designed based on the higher discharge rates, there is less of a chance of the system and drain field failing due to hydraulic overloading. These sizing calculations are not based on average discharge rates, rather they are based on the higher-end producers of

wastewater with the goal of covering about 95% of the population. In other words when dealing with on-site systems, the goal of the regulatory agency developing design standards is to cover as much of the population as possible while balancing the costs of the systems and protecting public health and the environment. This is a valid and justifiable goal because if the discharge rates that appeared in these tables were based on average discharge rates then 50% of the systems would be under designed and a 50% failure rate would be expected. This could never be acceptable based on the potential threat to public health. So as you can see, the higher discharge rates that appear in these tables are developed for design purposes and can not be used for estimating discharge rates from a single facility.

The third reason is that Bulletin No. 12 is being re-written because of some existing technical problems within the document itself. One problem worth noting is that in some areas the increases in wastewater flows and sizing requirements are not realistic because they have become too conservative (too large a factor of safety) resulting in undue expense to the public. Therefore all of these calculations and tables are being re-checked and in some instances being down-sized to a more realistic number.

Whether or not the 500 gallons per day per chair of wastewater is accurate or not is not really relevant to your situation because Bulletin No. 12 does not apply to you. However, one of the reasons that I am re-writing Bulletin No. 12 is that there are problems with the implementation of the bulletin due to the conflicts and inconsistencies it has with local codes, such as the plumbing code. The on-site, private sewage disposal system appendix within the 1994 Plumbing Code <sup>TM</sup> does not specifically address the discharge from dentists' offices. The only reference I could find is in Table 7-3. It assigns a fixture unit rate of 1 for dental units or cuspidors. This means that for these units it is assumed that they can discharge up to 7.5 gallons per minute. This is important in regards to sizing the waste piping so that it can handle all of the potential fixtures that could discharge at any one time. It really does not tell me what the total discharge per day is in gallons for a dentist's chair. The discharge amount depends on how long the fixture is left on during a 24-hour period. But if you do not have cuspidors in your dental office then this fixture unit size would not apply.

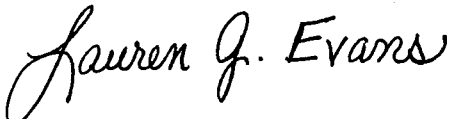
Another reason that there are problems with the discharge rates within the tables in Bulletin No. 12 is that the figures do not represent the water conservation or low flow devices. This "credit" is usually calculated separately and applied to the facility during the final plan review just prior to approving an on-site wastewater system design. But again I state that these tables would not apply to you since they are to be used when designing on-site wastewater systems.

Dr. Doelle  
August 30, 1996  
Page 3

Again, to determine your wastewater discharge you should assume you can not discharge any more in gallons than the amount of water that is delivered to the office. I suggest that you calculate your wastewater discharge amounts based on you water delivery amounts recorded in your water bills.

I hope I have answered your questions. I could not address the issue of fee rates since I do not understand what the relationship could be between the tables in Bulletin No. 12 and fee rate structures for facilities discharging to sewers. Please feel free to contact me at 602-207-4534 if you have any other questions or if I can be further service.

Sincerely,

A handwritten signature in cursive script that reads "Lauren G. Evans". The signature is written in dark ink and is positioned above the printed name and title.

Lauren G. Evans, Hydrologist IV  
Water Quality Division